



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/720,902

11/24/2003

Alan L. Billings

930034-2041

5301

20999 7590 06/18/2007
FROMMER LAWRENCE & HAUG
745 FIFTH AVENUE- 10TH FL.
NEW YORK, NY 10151

EXAMINER

WARD, JESSICA LEE

ART UNIT

PAPER NUMBER

1733

MAIL DATE

DELIVERY MODE

06/18/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/720,902

Applicant(s)

BILLINGS ET AL.

Examiner

Jessica L. Ward

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8 and 16-23 is/are pending in the application.
- 4a) Of the above claim(s) 7 and 9-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8, 16-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>dictionary definition/synonyms</u> |

9 results for: *coating*

1-9 of 9 results

View results from: [Dictionary](#) | [Thesaurus](#) | [Encyclopedia](#) | [All Reference](#) | [the Web](#)

Roget's New Millennium™ Thesaurus – Cite This Source

Main Entry: coating
Part of Speech: *noun*
Definition: covering
Synonyms: blanket, bloom, coat, crust, dusting, encrustation, film, finish, glaze, lamination, layer, membrane, patina, sheet, skin, varnish, veneer
Source: *Roget's New Millennium™ Thesaurus, First Edition (v 1.3.1)*
Copyright © 2007 by Lexico Publishing Group, LLC. All rights reserved.

Roget's New Millennium™ Thesaurus – Cite This Source

Main Entry: blanket
Part of Speech: *noun*
Definition: covering
Synonyms: Chilkat blanket, afghan, carpet, coating, comforter, cover, covering, coverlet, envelope, film, fleece, four-point blanket, layer, mackinaw, mat, point blanket, puff, quilt, rug, sheath, sheet, strip, throw, wrapper
Source: *Roget's New Millennium™ Thesaurus, First Edition (v 1.3.1)*
Copyright © 2007 by Lexico Publishing Group, LLC. All rights reserved.

Roget's New Millennium™ Thesaurus – Cite This Source

Main Entry: coat
Part of Speech: *noun*²
Definition: covering
Synonyms: bark, blanket coat, capote, coating, crust, finish, glaze, gloss, lacquer, lamination, layer, overlay, painting, plaster, priming, roughcast, tinge, varnish, wash, whitewashing
Notes: skin is the general term for an animal's outer covering; the layer of fur, hair, or wool is the

FINAL ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-6, 8 and 16-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 1, it is unclear what Applicant means by "a paper board contact surface." Is the contact surface made of paper board or does the contact surface contact paper board? Applicant is asked to clarify. It is suggested to replace "a paper board contact surface" with --an outside surface that contacts paper board-- in line 3 and to replace "said paper board contact surface" with --said outside surface-- in line 6.

Claim Objections

3. Claim 21 is objected to because of the following informalities: --a-- should be inserted before "second" in line 2. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-6, 8 and 16-23 stand rejected under 35 U.S.C. 102(b) as being anticipated by Wicker (US 3368933, previously cited).

Wicker teaches a belt 137, capable of being a single facer corrugator belt, in combination with a corrugated paper board machine (column 1, lines 8-10). The belt comprises:

- base structure 135 having an inside and a paper board contact surface and being formed by machine direction yarns and cross-machine direction yarns (Figure 16; column 10, lines 24-30)
- polymeric resin coating 136 (*sheet 136 equated to Applicant's "coating" – see dictionary definition of coating and list of synonyms attached to present office action*) applied on the paper board contact surface of the base structure (Figure 16; column 10, lines 24-30), and
- plurality of grooves 84a formed in the polymeric resin sheet/coating 136 (Figure 6; column 8, lines 39-61; column 10, lines 68-74).

As for the plurality of grooves aiding in improved paper board release and increased rate of board moisture removal, this is a function of the grooves and not a structural limitation. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function (MPEP 2114). Furthermore, the material worked upon (paper board) by the apparatus and the manner by which the apparatus cooperates with the material worked upon (aiding in improved board release and increased rate of board moisture removal) does not further limit the scope of an apparatus claim (MPEP 2115). However, the grooves of Wicker would be capable of aiding in improved board release and increased rate of board moisture removal. And although it is irrelevant, the Examiner would like to point out that Wicker expressly teaches the grooves aiding in improved board release (column 8, lines 47-49 and 53-61).

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1-6, 8 and 16-23 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Welch et al. (US 5857605, previously cited) in view Wicker.

Welch teaches a belt 46, capable of being a single facer corrugator belt, in combination with a corrugated paper board machine comprising:

- base structure formed by fabric plies 119-121 having an inside and a paper board contact surface (Figure 11; column 5, lines 35-40)
- polymeric resin coating 123 (*cover 123 equated to Applicant's "coating" – see dictionary definition of coating and list of synonyms attached to present office action*) applied on the paper board contact surface of the base structure (Figure 11; column 5, lines 40-44), and
- plurality of grooves 105 formed in the polymeric resin cover 123 (Figure 11; column 4, lines 20-23).

As for the plurality of grooves aiding in improved board release and increased rate of board moisture removal, this is a function of the grooves and not a structural limitation. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function (MPEP 2114). Furthermore, the material worked upon (board) by the apparatus and the manner by which the apparatus cooperates with the material worked upon (aiding in improved board release and increased rate of board moisture removal) does not further limit the scope of an

Art Unit: 1733

apparatus claim (MPEP 2115). However, the grooves of Welch would be capable of aiding in improved board release and increased rate of board moisture removal.

It is unclear as to whether the reference teaches the fabric plies of the base structure having machine and cross machine direction yarns. One reading Welch would have readily appreciated that the reference is not concerned with a particular type of fabric (i.e. non-woven, woven, etc.) for the base structure. Therefore, selection of a particular type of fabric would have been within purview of one having ordinary skill in the art. However, it would have been obvious to use a woven fabric, and hence a fabric that inherently has machine and cross machine direction yarns, for the base structure because such is well known and conventional in the art, as taught by Wicker (see above for complete discussion).

8. Claims 1-6, 8 and 16-23 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Billings et al. (US 6470944, previously cited) in view of Hansen (US 2002/0102894, previously cited) and further in view of McGahern et al. (US 6428874, previously cited).

With respect to claim 1, Billings teaches a single facer corrugator belt 40 in combination with a corrugated paper board machine comprising:

- base structure 52 having an inside and a paper board contact surface and being formed by machine direction yarns 56 and cross-machine direction yarns 54, and
- polymeric resin coating 66 applied on the paper board contact surface of the base structure (Figure 2; abstract; column 3, lines 10-18; column 4, lines 43-48; in fact, Billings teaches coating **and** impregnating the base structure with the resin so that **complete impregnation of the base structure** takes place because complete

impregnation of the base structure, **in addition** to forming a distinct resin layer on the outside surface of the base structure, improves the integrity and durability of the belt).

It is unclear as to whether Billings teaches a plurality of grooves formed in the polymeric resin coating.

It is known in the art to make a belt, which can be used as a **long nip press belt in a paper machine or a corrugator belt in a corrugator machine**, having a base structure formed by yarns where grooves are provided in the yarns for temporarily storing water that is removed from the material as it is conveyed on the base structure, as taught by Hansen (sections [0015, 0021, 0052]). But unlike Billings, Hansen does not teach coating/impregnating the base structure with a resin.

However, it is known in the art to make a **long nip press belt for a paper machine** having a base structure formed by yarns and a polymeric resin layer that coats/impregnates the base structure where a plurality of grooves are formed in the resin for temporarily storing water that is removed from the material as it is conveyed on the base structure, as taught by McGahern (Figure 3; abstract; column 2, lines 61-62; column 4, lines 45-47; column 5, lines 20-22).

Therefore, it would have been obvious to one of ordinary skill in the art to make the corrugator belt of Billings capable of temporarily storing water that is removed from the material as it is conveyed on the base structure because such is known in the corrugator belt art, as taught by Hansen; however, the manner by which Hansen achieves this capability (grooves in yarns) would not be suited to the base structure of Billings whose base structure is completely coated/impregnated with resin. Therefore, it would have been obvious to one having ordinary skill in the art to further look to the teachings of McGahern, who achieves the same capability in

Art Unit: 1733

a base structure that is completely coated/impregnated with resin by forming grooves in the resin, for motivation to provide grooves in the resin layer of Billings, especially since Hansen teaches it being known to use the same base structure as a long nip press belt in a paper machine or as a corrugator belt in a corrugator machine.

As for the plurality of grooves aiding in improved board release and increased rate of board moisture removal, this is a function of the grooves and not a structural limitation. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function (MPEP 2114). Furthermore, the material worked upon (board) by the apparatus and the manner by which the apparatus cooperates with the material worked upon (aiding in improved board release and increased rate of board moisture removal) does not further limit the scope of an apparatus claim (MPEP 2115). However, the grooves of Billings, as modified, would be capable of aiding in improved board release and increased rate of board moisture removal.

Double Patenting

9. The obviousness-type double patenting rejection of the present claims, as set forth in all previous actions, stands.

Response to Arguments

10. Applicant's arguments filed 4/12/07 have been fully considered but they are not persuasive.

A.

Applicant argues that Wicker teaches scores in a Mylar sheet, which are not grooves in a resin coating, as recited by the present claims.

Firstly, the Examiner points out that Wicker expressly states that the scores (84a) form “minute channels or grooves” in the Mylar sheet (Figure 6; column 8, lines 44-47). Therefore, the reference teaches Applicant’s claimed grooves. Secondly, Applicant appears to be reading limitations from the present specification into the claims thereby resulting in a narrow interpretation of the newly added “coating” limitation. The Examiner reminds Applicant that claims must be given their broadest and most reasonable interpretation and while claims are read in light of the specification, limitations from the specification are not read into the claims (MPEP 2111). Since the dictionary defines a “coating” as a “covering” and lists “layer” and “sheet” as synonyms for “coating,” one would readily appreciate that the Mylar sheet of Wicker is equivalent to Applicant’s coating.

Applicant argues that the perforations of Wicker are through holes and not grooves and that the perforations extend entirely through the belt. Applicant argues that the resin coating of the present invention is applied on the board contact surface of the base structure and has grooves formed thereon and not in the base structure itself.

The Examiner points out that the perforations (75) of Wicker were never equated to Applicant’s grooves. As stated above, the grooves (84a) of Wicker were equated to Applicant’s grooves. As for Applicant’s position that the grooves of Wicker extend entirely through the base structure whereas the grooves of the present invention do not, the Examiner points out that this argument is not commensurate with the scope of the present invention. However, the Examiner also points out that the grooves (84a) of Wicker do not extend entirely through the base structure.

B.

Applicant argues that Welch teaches grooves formed in a rubber cover and therefore does not teach or suggest a coating, as now recited in the present claims. The Examiner reminds Applicant that claims must be given their broadest and most reasonable interpretation and while claims are read in light of the specification, limitations from the specification are not read into the claims (MPEP 2111). Since the dictionary defines a "coating" as a "covering" and lists "layer" and "sheet" as synonyms for "coating," one would readily appreciate that the rubber cover (123) of Welch is equivalent to Applicant's coating.

Applicant also argues that Welch teaches the material of the low friction strips 117 may be, for example, a single or multi-ply polyester fabric similar to the fabric used in other belt plies and therefore the plies of Welch are single or multi-ply polyester fabrics and are not necessarily woven fabrics comprising machine direction and cross machine direction yarns, as recited in the present claims.

Firstly, the Examiner did not equate the strips 117 of Welch to Applicant's claimed base structure. As stated in the rejection, the Examiner equated fabric plies 119-121 to the base structure and Welch discloses no specifics with respect to the fabric plies 119-121 (column 5, lines 35-40). Regardless, fabric being single-ply or multi-ply or polyester has no bearing on whether the fabric is woven, non-woven, etc. Furthermore, one reading the reference as a whole would have readily appreciated that the specifics of the fabric ply/plies is not critical to the invention and therefore selection of a particular type of fabric (i.e. woven, non-woven) would have been within purview of one having ordinary skill in the art. However, it would have been obvious to use a woven fabric, and hence a fabric that inherently has machine and cross machine

Art Unit: 1733

direction yarns, for the base structure of Welch because such is well known and conventional in the art, as evidenced by Wicker.

C.

Applicant argues that the Examiner looks to Hansen for grooves, but there is nothing in Hansen to indicate that his yarn would be the sheet contacting surface of a corrugator belt.

Applicant argues that the yarn of Hansen is meant to be a reinforcing structure for belts such as corrugator belts.

Firstly, the Examiner points out that Hansen teaches the fabric conveying water away from the material that is conveyed thereon ([0052]). Therefore, one would readily appreciate that the outer surface of the fabric is a material contacting surface. However, the Examiner also points out that the manner in which an apparatus cooperates with the material worked upon does not further limit the scope of an apparatus claim (MPEP 2115).

Secondly, the Examiner did not look to Hansen for grooves. The rejection relies on Hansen solely as a teaching that it is known in the art to use the same fabric as a base structure for both a paper-processing belt and a corrugator belt, where both of these industrial settings use the fabric to remove and temporarily store water from the material that is conveyed thereon.

Applicant argues that Hansen, when referring to dewatering, teaches “other industrial settings” and does not refer to corrugator belts. Applicant argues that paragraph 21 talks of use of grooved yarns with no application mentioned. Applicant argues that only grooved yarns are shown in Figure 6 and that in paragraph 54 a discussion of Figure 6 takes place where the grooves are stated to provide for storage of water from cellulosic fibrous webs. Applicant argues that in other words, the grooves are used during papermaking and not in corrugator board

Art Unit: 1733

production. Applicant also argues that in paragraphs 52 and 53 when referring to the holes in the yarn for water storage, it is water from a cellulosic fibrous web and not a paper board. Applicant argues that there is no teaching in Hansen for using such yarns, grooved or perforated, in a corrugator belt and that Hansen intends for the yarns to be reinforcing yarns and not dewatering yarns in a corrugator belt.

The Examiner respectfully points out that Applicant has grossly misinterpreted the Hansen reference by failing to read the reference as a whole. Applicant has instead picked single sentences or paragraphs from the reference and interpreted them in a vacuum to support his position, which the Examiner believes to be unfounded. Firstly, the dewatering of Hansen is not limited to "other industrial settings." One reading the entire reference, especially in light of the description of the prior art, would readily appreciate that the entire invention of Hansen is specifically directed to dewatering and that "other industrial settings" is just an umbrella term that Hansen uses to lump together all other industrial settings where dewatering of a material takes place instead of individually listing each of these industrial settings, as he did with paper-processing and corrugating (abstract; sections [0015]). Therefore, it is abundantly clear that Hansen only felt the need to list paper-processing and corrugating as two specific industrial settings where dewatering of a material takes place.

Hansen talks about grooved yarns with no application mentioned in paragraph 21, because one reading the reference as a whole would readily appreciate that the grooved yarns relate to all applications disclosed by Hansen and therefore no need exists to mention these Applications specifically in paragraph 21. And while paragraph 54 does talk about cellulosic fibrous webs, Applicant conveniently failed to mention that paragraph 52 talks about removing

Art Unit: 1733

water from cellulosic fibrous webs “or other material” being conveyed on the fabric. Therefore, one reading Hansen as a whole would clearly understand that Hansen intends for the grooved fabrics to be used for removing and temporarily storing water from material that is conveyed on a paper-processing belt, a corrugator belt, and belts of other industrial settings by using the fabric as a base structure for the belt.

Applicant argues that McGahern is directed to a resin-impregnated belt with a grooved surface but the belt is for a long nip press or calendar of a shoe type and the grooves are intended to provide spaces to separate the liquid phase moisture that is pressed from the sheet/press fabric.

Once again, the Examiner points out that McGahern was only used to show it being known in the art to make a resin coated and impregnated belt capable of temporarily storing water that is removed from the material in contact therewith by *forming grooves in the resin*. The examiner acknowledged that McGahern only talks about using his belt as a long nip press belt in a paper machine and that is why the reference to Hansen was cited to show it being known in the art to use a base structure, which is capable of temporarily storing water that is removed from the material conveyed thereon, as part of a belt for both a long nip press belt in a paper machine and a corrugator belt in a corrugator machine. Simply stated, Hansen was the link used to logically connect the Billings and McGahern references. As stated in the rejection:

...“it would have been obvious to one of ordinary skill in the art to make the corrugator belt of Billings capable of temporarily storing water that is removed from the material as it is conveyed on the base structure because such is known in the corrugator belt art, as taught by Hansen; however, the manner by which Hansen achieves this capability (grooves in yarns) would not be suited to the base structure of Billings whose base structure is completely coated/impregnated with resin. Therefore, it would have been obvious to one having ordinary skill in the art to further look to the teachings of McGahern, who achieves the same capability in a base structure that is completely coated/impregnated with resin by forming grooves in the resin, for motivation to

Art Unit: 1733

provide grooves in the resin layer of Billings, especially since Hansen teaches it being known to use the same base structure as a long nip press belt in a paper machine or as a corrugator belt in a corrugator machine.”

Applicant also argues that the instant invention, contrary to McGahern, relates to a single facer corrugator belt in combination with a corrugator machine that is specifically designed to allow moisture vapor that comes from the heated board to pass out of the facer zone into the belt.

The examiner reminds Applicant that this is a *function* of the corrugator belt and not a *structural* limitation. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function (MPEP 2114). Furthermore, the Examiner points out that the material worked upon by the apparatus and the manner by which the apparatus cooperates with the material worked upon does not further limit the scope of an apparatus claim (MPEP 2115). However, the grooves of Billings, as modified in view of Hansen and McGahern, would be capable of allowing moisture vapor that comes from the heated board to pass out of the facer zone and into the belt.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

Art Unit: 1733

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessica L. Ward whose telephone number is 571-272-1223. The examiner can normally be reached on Mon-Fri between 9AM and 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard D. Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jessica L. Ward
Primary Examiner
Art Unit 1733